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EXAMINER

OCAMPO, MARIANNE S

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1723

DATE MAILED: 03/12/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 09/890,583	<b>Applicant(s)</b> ECKERBOM ET AL.	
	<b>Examiner</b> Marianne S. Ocampo	<b>Art Unit</b> 1723	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 21 November 2003.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 November 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |  |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)<br>2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)<br>3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____<br>5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)<br>6) <input type="checkbox"/> Other: _____ |
|---|--|

## DETAILED ACTION

### *Priority*

1. Should applicant desire to obtain the benefit of foreign priority under 35 U.S.C. 119(a)-(d) prior to declaration of an interference, a translation of the foreign application *SE (SWEDEN) 9900351-9 filed on 2-2-99*, should be submitted under 37 CFR 1.55 in reply to this action.

### *Specification*

2. The abstract of the disclosure is objected to because the reference number 5 inside the parentheses in line 2, after the word "container" should be changed to 3. Correction is required. See MPEP § 608.01(b).

### *Drawings*

3. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, **the holder unit being connected to the (expiration gas) analysis instrument** (particularly *the gas analysis instrument* which is being now positively recited), as in claims 1, 8 and 18, and **the component to actuate the**

Art Unit: 1723

**second electric contact element of the holder unit in one size of the water trap**, as in claim 6, must be shown or the features should be canceled from the claims. *No new matter should be entered.*

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

#### ***Claim Objections***

4. Claims 4, 8 and 20 are objected to because of the following informalities:

a). In claim 4, the word “liquid” in line 4 after the expression “presence of a” and before the word “trap”, should be changed to “water”.

b). In claims 8 and 20, the word “an” before “least two different types” in line 7, should be changed to “at”.

Appropriate correction is required.

5. Claim 17 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim, or amend the claim to place it in proper dependent form, or rewrite the claim in independent form. Claim 17 fails to add further structural limitations and merely adds

Art Unit: 1723

functionality of the already mentioned connection passageways which has been claimed by its parent claim (i.e. claim 14).

***Claim Rejections - 35 USC § 112***

6. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

7. Claims 5, 8, 16 and 20 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claims contain subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventors, at the time the application was filed, had possession of the claimed invention.

a). Claim 5 added the claim language “ a second electric contact element which function to **adjust a speed of a pump motor of the analysis instrument in accordance to the type of water trap used**”. This is new matter. There is no support found for a pump motor of the analysis instrument in the original specification and the second electric contact having the ability to adjust the speed of the pump motor.

b). Newly added claim 8 include the claim language “the holder configured to externally hold **water traps of at least two different types**”, which has no support in the instant

Art Unit: 1723

specification and thus, is considered to be new matter. The highlighted portions of the claim language are considered to be new matter. There is only support for two types (i.e. two sizes) of water traps, and *not more than two* which is included in the limitation “at least two different types”. **All new matter must be canceled.**

c). Newly added claim 16 includes the claim language “ **the second of the contact elements signals a pump of the instrument** to operate at a lower rate of flow than a maximum rate of flow” and **a second type of water trap presses against the second of the contact elements to operate the pump at a high rate of flow than the lower rate of flow**”. The highlighted portions of the claim language are considered to be new matter. There is no disclosure found to support a pump of the (analysis) instrument in the original specification, and only the first type of water trap (which the examiner has considered to be that of an infant/children size) presses in (or against) the second contact element to operate a lower flow rate. In fact, the original specification discloses that the other (i.e. second type of water trap) water trap intended for adults has an aperture which will mean that the second contact element will not be pressed –in when the adult water trap is fitted into the holder unit (see page 7, lines 5-16 of the original specification). **All new matter must be canceled.**

d). The newly added claim 20 includes the claim language “*the two connection passageways are connectable to the two connection devices by pressure contact*”, in lines 4 – 5 and “the holder further is configured to externally hold *water traps of at least two different*

Art Unit: 1723

*types*”, in lines 8 – 9, and lastly, “a second of the contact elements configured *to control a pump speed of the (analysis) instrument based on the detected type of water trap*”, which have no support in the instant specification and thus, is considered to be new matter. The highlighted portions of the claim language are considered to be new matter. There is only support for two types (i.e. two sizes) of water traps, and *not more than two* which is included in the limitation “at least two different types”. **All new matter must be canceled.**

### ***Claim Rejections - 35 USC § 103***

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 1 – 3, 7 – 9, 12 – 14 and 17- 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ricciardelli et al. (US 4,592,368) in view of Ruschke (US 4,298,358).

10. Regarding claim 1, Ricciardelli et al. disclose a liquid separator for separating liquid from gases comprising:

Art Unit: 1723

- the combination of a water trap (100) and a holder unit (128),
- the water trap (100) including a container (114, 116), a connection (130, 12) for incoming gas/fluid flow, a separation chamber (104) and at least one connection passageway (110) for leading liquid free gas to an analysis instrument (10, 16) via the holder unit (128),
- the holder unit (128) being connected to the analysis instrument (10, 16) and the water trap (100) removably fitted in an external cavity of the holder unit (128) and the holder unit (128) being provided with connection devices (118, 120, 122, 124) for accommodating the at least one collection passageway (110 & 112) within the external cavity, as in figs. 1 - 4 and cols. 2 - 5.

Ricciardelli et al. fail to disclose the separation chamber including a filter.

11. Ruschke teaches a liquid separator for separating liquid from gases comprising a water trap (10) including a container (12, 16), a connection (20) for incoming gas/fluid flow, a separation chamber (37, 39) that includes at least one filter (24 and/or 40), and at least one connection (38, 56) for leading liquid-free gas to atmosphere (or any analysis instrument if desired by the user), as in figs. 1 & 3 and cols. 4 - 6.

It is considered obvious to one of ordinary skill in the art at the time of the invention to modify the liquid separator of Ricciardelli et al., by adding the embodiment (i.e. a filter in a separation chamber of a water trap) taught by Ruschke, in order to provide an improved liquid separator which not only effectively separates liquid from gases, but at the same time, effective in filtering bacteria from gases exiting out of the water trap, thereby providing gas that is free of contamination (bacteria) and safe for venting to atmosphere or for further analysis.



12. With respect to claim 2, Ricciardelli et al., as modified by Ruschke, have taught the limitations of claim 1 above. Ricciardelli et al. further disclose the connection device (118, 122, 124, 126) being a *quick fastener* (has been considered by the examiner to include any fasteners which can be easily removed and assembled) for connection to the connection passageway (110), as in figs. 3 - 4.

13. Concerning claim 3, Ricciardelli et al., as modified by Ruschke, have taught the limitations of claim 1 above. Ricciardelli et al. also disclose two connection passageways (110 & 112) and the holder unit (128) including two connection devices (118, 120, 124, 122, 126), as in figs. 2 - 3.

14. With regards to claim 7, Ricciardelli et al., as modified by Ruschke, have taught the limitations of claim 1 above. Although Ricciardelli et al., as modified by Ruschke, do not teach the water trap is intended for one-time use only, it is considered obvious to one of ordinary skill in the art at the time of the invention to remove and replace the water trap of the liquid separator of Ricciardelli et al., as modified by Ruschke, after only one (time) use of the water trap, as a choice of the user of the separator/device. Depending upon the type of material of construction and cost considerations in making the separator, (i.e. the type of plastic to form the container 100 could be either PLEXIGLAS which is a more durable but more expensive plastic to manufacture the water trap container 100 or another type of plastic that is not as durable/stable as

Art Unit: 1723

PLEXIGLAS but may be less expensive to make into the container) of the water trap/container (100), the water trap may be usable for just a one-time use only.

15. Regarding claim 8, Ricciardelli et al. disclose a liquid separator comprising :

- a holder unit (128) and
- a water trap (100) externally held by the holder unit, the holder unit (128) having connections (via conduit 14, 110, 120, 118, 124, 122) to an instrument (10, 16) capable of analyzing expiration gas/gas coming out of the water trap, and
- the holder unit (128) being configured to externally accommodate/hold water traps of various types (i.e. sizes), and the water trap (100) comprising:
  - a separation chamber (104) provided with a connection (130) to receive gas/fluid flow which could incoming from a patient/any source (12);
  - a container (102, 116) located beneath the separation chamber (104);
  - a liquid passageway (108) within the separation chamber (104);
  - an upper chamber part (right above 102) located above the separation chamber (104) and connecting to an upper part of the separator;
  - two connection passageways (110 & 112) within the upper chamber part connected to the separation chamber and the two passageways being connected to the holder and via the holder to the instrument (10), and
  - locking tabs (118 and those that catches the spring 126 at the bottom end of water trap 1001) fitted externally to the separation chamber and engageable with corresponding

Art Unit: 1723

elements of the holder unit (128) to externally snap fit the water trap (100) to the holder unit and allow the user to remove the trap from the holder unit, as in figs. 1 – 4 and cols. 2 – 5.

Ricciardelli et al. fail to disclose a filter positioned above the liquid passageway.

16. Ruschke teaches a liquid separator comprising a water trap including a liquid passageway (20, 37) and a filter (40) positioned above (or to the left thereof) the passageway (37), as in figs. 1 & 5.

It is considered obvious to one of ordinary skill in the art at the time of the invention to modify the liquid separator of Ricciardelli et al., by adding the embodiment (i.e. a filter above a separation chamber/liquid passageway of a water trap) taught by Ruschke, in order to provide an improved liquid separator which not only effectively separates liquid from gases, but at the same time, effective in filtering bacteria from gases exiting out of the water trap, thereby providing gas that is free of contamination (bacteria) and safe for venting to atmosphere or for further analysis.

17. Concerning claim 9, Ricciardelli et al., as modified by Ruschke, have taught the limitations of claim 8 above. Ricciardelli et al. further disclose the separation chamber (104) being formed unitarily/integrally to the upper chamber part of the water trap (100), as in figs. 1 - 4 and Ruschke also teaches the filter (40) being a bacteria filter, as in col. 6, lines 16 – 20. The same motivation applied in claim 8 above, is being applied here. Regarding claim 9, it is considered an obvious engineering choice to manufacture the separation chamber and the upper chamber part of the water trap of Ricciardelli et al. as a one-piece/unitary structure compared to

Art Unit: 1723

the separate parts of the claimed invention. The case law, *In re Larson* (340 F.2d 965, 968 144 USPQ 347, 349 (CCPA 1965)) has provided that a claim towards an invention in which it differs from that of a prior art by using a one piece construction instead of a structure disclosed in the prior art (i.e. several parts *rigidly secured together (in this instance by welding)* as a single unit) would be merely a matter of obvious engineering choice.

18. With respect to claim 12, Ricciardelli et al., as modified by Ruschke, have taught the limitations of claim 8 above. Ricciardelli et al. also disclose the holder unit (128) comprising an external cavity which receives/holds the water trap (100), as in figs. 3 – 4.

19. With regards to claim 13, Ricciardelli et al., as modified by Ruschke, have taught the limitations of claim 12 above. Ricciardelli et al. further disclose the corresponding elements in the holder unit (128) to which the locking tabs (118) are engageable, being locking apertures (122) which receive the locking tabs (118, 124) and therewith lock the trap (100) in the holder unit (128), as in figs. 3 – 4.

20. Concerning claim 14, Ricciardelli et al., as modified by Ruschke, have taught the limitations of claim 8 above. Ricciardelli et al. also disclose the holder unit (128) including two connection devices (118, 120, 122) and the two connection passageways (110 & 112) are connected to the two connection devices and the two connection devices (118, 120, 122) having outlets, which are capable of being (both) connected to an analysis instrument, as in fig. 3.

Art Unit: 1723

Ricciardelli et al. have shown only one of the connection passageways (110) connected to one of the connection devices (118, 120, 122) whose outlet is being connected to a gas analysis instrument, however, it is considered obvious to one ordinary skill in the art that a sensing/analysis instrument could also be attached to the outlet of the other connection device connected to the other connection passageway (112), and/or be connected to the same sensing instrument that the connection passageway (110) is connected to, if the user desired to analyze the gas passing therethrough.

21. With regards to claim 17, Ricciardelli et al., as modified by Ruschke, have taught the limitations of claim 14 above. Ricciardelli et al. already disclosed the two connection passageways which are both connected to the two connection devices, and they are considered to be capable of being connected such that they provide a main flow of gas from the water trap (100) through a first (100) of the passageways and a secondary flow from the water trap (100) through the second (112) of the passageways.

22. Regarding claim 18, Ricciardelli et al. disclose a liquid separator comprising:

- a holder unit (128) with an external cavity and connected with a (expiration or any other type of) gas analysis instrument (10); and
- a water trap (100) externally held by the holder unit within the cavity, and the water trap (100) comprising:

Art Unit: 1723

- a separation chamber (104) provided with a connection (130) to receive gas/fluid flow which could incoming from a patient/any source (12);
- a container (102, 116) located beneath the separation chamber (104);
- a liquid passageway (108) within the separation chamber (104);
- an upper chamber part (right above 102) located above the separation chamber (104) and connecting to an upper part of the separator;
- two connection passageways (110 & 112) within the upper chamber part connected to the separation chamber and the two passageways being connected to the holder and via the holder to the instrument (10), and
- locking tabs (118 and those that catches the spring 126 at the bottom end of water trap 1001) fitted externally to the separation chamber and engageable with corresponding elements of the holder unit (128) to externally snap fit the water trap (100) to the holder unit and allow the user to remove the trap from the holder unit, as in figs. 1 – 4 and cols. 2 – 5.

Ricciardelli et al. fail to disclose a filter positioned above the liquid passageway.

23. Ruschke teaches a liquid separator comprising a water trap including a liquid passageway (20, 37) and a filter (40) positioned above (or to the left thereof) the passageway (37), as in figs. 1 & 5.

It is considered obvious to one of ordinary skill in the art at the time of the invention to modify the liquid separator of Ricciardelli et al., by adding the embodiment (i.e. a filter above a separation chamber/liquid passageway of a water trap) taught by Ruschke, in order to provide an improved liquid separator which not only effectively separates liquid from gases, but at the same

Art Unit: 1723

time, effective in filtering bacteria from gases exiting out of the water trap, thereby providing gas that is free of contamination (bacteria) and safe for venting to atmosphere or for further analysis.

24. Claims 4 – 6, 15 – 16 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ricciardelli et al. and Ruschke, as applied to claim 1 above, and further in view of Franz et al. (US 6,645,277 B1).

25. With respect to claim 4, Ricciardelli et al., as modified by Ruschke, have taught the limitations of claim 1 above. Ricciardelli et al., as modified by Ruschke, fail to teach the holder unit including a first electric contact element which functions to detect presence of a liquid/water trap in the holder unit and stop the flow of sample gas to the analysis instrument when no water trap is fitted in the holder unit.

26. Franz et al. teach a fluid separator/filter comprising a holder unit (3, 1, 4) which includes a first electric contact element (52, 27) which functions to detect presence/absence of a filter device (which could be a water trap) in the holder unit (1, 4, 3) and thereby, able to stop a flow of (compressed air) gas to the connected machines/devices (such as an analysis instrument) when no filter/water trap is fitted in the holder unit, as in cols. 1 - 8.

It is considered obvious to one of ordinary skill in the art at the time of the invention to modify the holder unit of Ricciardelli et al., as modified by Ruschke, by adding the embodiment taught by Franz et al., in order to provide an improved liquid separator which allows detection of presence & absence of a water trap/filter during operation thereof, thereby preventing

Art Unit: 1723

impairments/damage to machines and devices (in this instance, a gas analysis instrument) connected thereto (see col. 1, lines 33 – 50 of Franz et al.).

27. Regarding claims 5 – 6, Ricciardelli et al., as modified by Ruschke and Franz et al., have taught the limitations of claim 4 above. Franz et al. further teach the holder unit (1, 4) including a second electric contact element (24, 28, 46, 27) which function to detect the type of water trap/filter fitted into the holder unit and the second electric contact element having the ability to adjust its parameters (which may include speed of a pump motor of an analysis instrument) in accordance to the type and conditions of the filter/water trap used, and the filter/water trap used or fitted into the holder unit (filter vessel 1, 4) could be in different sizes (i.e. for infants or adults or small/large capacities), and one size may include a component (such as a switch or other means) to be connected to (actuate) the second electric contact, as in col. 6, beginning in line 40 to cols. 7 - 8 . The same motivation used in claim 4 above is applied here.

28. Concerning claim 15, Ricciardelli et al., as modified by Ruschke, have taught the limitations of claim 14 above. Ricciardelli et al., as modified by Ruschke, fail to teach the holder comprising two electric contact elements provided in a rear edge of the cavity and activated by insertion of a water trap therein, and a first of the contact elements is configured to detect presence of the water trap in the holder unit so that when the water trap is removed from the holder unit, the contact element would stop a flow to the (analysis) instrument and a second of the contact elements is for detecting the type of water trap inserted into the holder unit.



29. Franz et al. teach a fluid separator/filter comprising a holder unit (3, 1, 4) including at least two electric contact elements (27, 52, 24, 28) provided in a rear edge (within and uppermost end of the unit 1, 4 and in this orientation, the front edge being the side where the filter/separator would be installed), the contact elements including a first electric contact element (52, 27) which functions to detect presence/absence of a filter device (which could be a water trap) in the holder unit (1, 4, 3) and thereby, able to stop a flow of (compressed air) gas to the connected machines/devices (such as an analysis instrument) when no filter/water trap is fitted in the holder unit, and a second electric contact element (24, 28, 52, 46, 27) which function to detect the type of water trap/filter fitted into the holder unit, as in cols. 1 - 8.

It is considered obvious to one of ordinary skill in the art at the time of the invention to modify the holder unit of Ricciardelli et al., as modified by Ruschke, by adding the embodiment taught by Franz et al., in order to provide an improved liquid separator which allows detection of presence & absence of a water trap/filter during operation thereof, thereby preventing impairments/damage to machines and devices (in this instance, a gas analysis instrument) connected thereto (see col. 1, lines 33 – 50 of Franz et al.).

30. Concerning claim 20, Ricciardelli et al., as modified by Ruschke, have taught the limitations of claim 18 above. Ricciardelli et al. also disclose the holder unit (128) being configured to externally accommodate/hold water traps of various types (i.e. sizes), and the holder unit (128) including two connection devices (118, 120, 122) and the two connection passageways (110 & 112) are connected to the two connection devices and the two connection

Art Unit: 1723

devices (118, 120, 122) having outlets, which are capable of being (both) connected to an analysis instrument, as in fig. 3. Although Ricciardelli et al. have shown only one of the connection passageways (110) connected to one of the connection devices (118, 120, 122) whose outlet is being connected to a gas analysis instrument, it is considered obvious to one ordinary skill in the art that a sensing/analysis instrument could also be attached to the outlet of the other connection device connected to the other connection passageway (112), and/or be connected to the same sensing instrument that the connection passageway (110) is connected to, if the user desired to analyze the gas passing therethrough.

Ricciardelli et al., as modified by Ruschke, fail to teach the holder comprising two electric contact elements provided in a rear edge of the cavity and activated by insertion of a water trap therein, and a first of the contact elements is configured to detect presence of the water trap in the holder unit so that when the water trap is removed from the holder unit, the contact element would stop a flow to the (analysis) instrument and a second of the contact elements is for detecting the type of water trap inserted into the holder unit and controlling pump speed of the (analysis) instrument based on detected type of water trap.

31. Franz et al. teach a fluid separator/filter comprising a holder unit (3, 1, 4) including at least two electric contact elements (27, 52, 24, 28) provided in a rear edge (within and uppermost end of the unit 1, 4 and in this orientation, the front edge being the side where the filter/separator would be installed), the contact elements including a first electric contact element (52, 27) which functions to detect presence/absence of a filter device (which could be a water trap) in the holder unit (1, 4, 3) and thereby, able to stop a flow of (compressed air) gas to the

Art Unit: 1723

connected machines/devices (such as an analysis instrument) when no filter/water trap is fitted in the holder unit, and a second electric contact element (24, 28, 52, 46, 27) which function to detect the type of water trap/filter fitted into the holder unit and control various parameters (including a pump speed) of the connected machines & devices thereto (includes an analysis instrument), the electric contacts activated by insertion/installation of a filter/water trap into the holder unit, as in cols. 1 - 8.

It is considered obvious to one of ordinary skill in the art at the time of the invention to modify the holder unit of Ricciardelli et al., as modified by Ruschke, by adding the embodiment taught by Franz et al., in order to provide an improved liquid separator which allows detection of presence & absence of a water trap/filter during operation thereof, and control/detect various design and conditions of the fluid separator, thereby preventing impairments/damage to machines and devices (in this instance, a gas analysis instrument) connected thereto (see col. 1, lines 33 – 50 of Franz et al.).

32. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ricciardelli et al. and Ruschke, as applied to claim 8 above, and further in view of Rotheiser et al. (US 5,935,281).

33. Regarding claim 10, Ricciardelli et al., as modified by Ruschke, have taught the limitations of claim 8 above. Ricciardelli et al., as modified by Ruschke, further teaches the bacteria filter (40) being a PTFE (polytetrafluoroethylene) filter sealed with a continuous

Art Unit: 1723

adhesive tape (48) or with a backing strip (42) formed in the separation chamber and the upper chamber part, as in figs. 5 – 6 and 9 and cols. 6 – 7 of Ruschke. The type of material of construction of the filter which in this instance, is PTFE, is considered to be the most preferable material and choice of the user depending upon its inherent desirable properties, such its water repelling property and melting point which is a factor to consider if it will be heat sealed (type of attachment of the membrane) to the separation chamber and upper chamber part.

Ricciardelli et al., as modified by Ruschke, fail to teach the type of seal/attachment of the PTFE filter being a labyrinth seal.

34. Rotheiser et al. teach an effective seal for a filter (22) to its housing (which could be a separation chamber and the upper chamber part of a water trap), wherein the filter (22) is being attached or sealed to its housing using a labyrinth seal, as in cols. 4 - 5 & figs. 1 – 9.

It is considered obvious to one of ordinary skill in the art at the time of the invention to modify the type of seal used in attaching the filter of the liquid separator of Ricciardelli et al., as modified by Ruschke, by adding the embodiment taught by Rotheiser et al., in order to provide an alternative design and effective seal which would not be loosen or could not be easily detached, thereby providing a leak-proof seal between the filter and the housing.

35. Claims 11 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ricciardelli et al. and Ruschke, as applied to claims 8 and 18, respectively above, and further in view of Choksi (US 4,717,403).

36. With respect to claims 11 and 19, Ricciardelli et al., as modified by Ruschke, have taught the limitations of claims 8 and 18, respectively above. Ricciardelli et al., as modified by Ruschke, have taught the bacteria filter (40), as in col. 6 of Ruschke.

Ricciardelli et al., as modified by Ruschke, fail to teach the container being removable from the separation chamber.

37. Choksi teaches a similar liquid separator to that of Ricciardelli et al., the separator of Choksi including a water trap comprising a separation chamber (302, 306) including a connection (314) for receiving a gas flow from a patient, a container (304) located beneath the separation chamber, a liquid passageway (410, 419) within the separation chamber (302), wherein the container (304) is removable from the separation chamber (302), as in figs. 3 - 8 and cols.1 - 4.

It is considered obvious to one of ordinary skill in the art at the time of the invention to modify the liquid separator of Ricciardelli et al., as modified by Ruschke, by adding the embodiment taught by Choksi, in order to provide an alternative design for a water trap which allows separation and detachment of the container from the separation chamber of the water trap, thereby allowing removal of liquid collected by the water trap for disposal and reuse of the water trap and eliminating unnecessary devices (such as use of syringes etc.) for removal of collected liquid (see cols. 1 - 4 of Choksi).

***Response to Amendments and Arguments***

38. Applicants' amendments and arguments with respect to claims 1 - 20 have been considered but are moot in view of the new grounds of rejection set forth above. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

***Conclusion***

39. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marianne S. Ocampo whose telephone number is (571) 272-

Art Unit: 1723

1144. The examiner can normally be reached on Mondays to Fridays from 8:30 A.M. to 4:30 P.M..

40. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wanda Walker can be reached on (571) 272-1151. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

41. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

M.S.O.

  
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